

CLAIMS

1. A display control device that causes a display screen to display predetermined image information, comprising:

a display adjustment signal superimposing unit that superimposes a display adjustment signal for adjusting timing of displaying a pixel in accordance with image information, on a portion of a signal corresponding to a region outside the display screen on a horizontal scanning line;

an image signal sampling unit that performs sampling for an image signal in accordance with the image information in predetermined sampling timing;

a display control unit that performs display control for the pixel, using a value obtained through the sampling performed by the image signal sampling unit;

a display adjustment signal sampling unit that performs sampling for the display adjustment signal in predetermined sampling timing;

an optimum display timing detecting unit that detects optimum timing of displaying the pixel by changing the sampling timing in the display adjustment signal sampling unit, based on a value obtained through the sampling performed by the display adjustment signal sampling unit, until the optimum timing of displaying the pixel is determined; and

a timing adjusting unit that adjusts the sampling timing in the image signal sampling unit to the optimum display timing, when the optimum display timing detecting unit detects the

optimum display timing.

2. The display control device as claimed in claim 1, wherein the timing adjusting unit changes the sampling timing in the image signal sampling unit, so as to adjust the sampling timing in the image signal sampling unit to the optimum display timing.

3. The display control device as claimed in claim 2, wherein the timing adjusting unit changes the sampling timing in the image signal sampling unit by a predetermined amount at a time.

4. The display control device as claimed in claim 1, further comprising

a drawing unit that creates the image information and outputs the image signal,

wherein the timing adjusting unit changes timing of outputting the image signal in the drawing unit, so as to adjust the sampling timing in the image signal sampling unit to the optimum display timing.

5. The display control device as claimed in claim 4, wherein the timing adjusting unit changes the timing of outputting the image signal in the drawing unit by a predetermined amount at a time.

6. The display control device as claimed in any of claims 1 through 5, wherein the timing adjusting unit adjusts the sampling timing in the image signal sampling unit to the optimum display timing when a change cannot be recognized by a user or is difficult for a user to recognize from image information displayed on the display screen.

7. The display control device as claimed in claim 6, wherein the timing adjusting unit adjusts the sampling timing in the image signal sampling unit to the optimum display timing when scene switching is performed.

8. The display control device as claimed in claim 6, wherein the timing adjusting unit adjusts the sampling timing in the image signal sampling unit to the optimum display timing when a luminance level of the display screen is lower than a predetermined threshold value.

9. The display control device as claimed in any of claims 1 through 5, wherein the display adjustment signal is superimposed on a portion of a signal corresponding to a region outside the display screen on a horizontal scanning line and also corresponding to a region that can display the image information.

10. The display control device as claimed in any of claims 1 through 5, wherein a signal on which the display adjustment

signal is to be superimposed is at least one of an image signal representing a color component contained in the image information, a luminance signal, and a synchronization signal.

11. The display control device as claimed in any of claims 1 through 5, wherein the display adjustment signal is a signal in synchronization with drawing dots.

12. The display control device as claimed in any of claims 1 through 5, wherein the display adjustment signal is a signal representing one display pixel.

13. A display control method for causing a display screen to display predetermined image information, the method comprising the steps of:

superimposing a display adjustment signal for adjusting timing of displaying a pixel in accordance with image information, on a portion of a signal corresponding to a region outside the display screen on a horizontal scanning line;

performing sampling for an image signal in accordance with the image information in predetermined sampling timing;

performing display control for the pixel, using a value obtained through the sampling for the image signal;

performing sampling for the display adjustment signal in predetermined sampling timing;

detecting optimum timing of displaying the pixel by changing the sampling timing for the display adjustment signal,

based on a value obtained through the sampling for the display adjustment signal, until the optimum timing of displaying the pixel is determined; and

adjusting the sampling timing for the image signal to the optimum display timing, when the optimum display timing is detected.

14. A display control program that causes a computer to display predetermined image information on a display screen, and to function as:

a display adjustment signal superimposing unit that superimposes a display adjustment signal for adjusting timing of displaying a pixel in accordance with image information, on a portion of a signal corresponding to a region outside the display screen on a horizontal scanning line;

an image signal sampling unit that performs sampling for an image signal in accordance with the image information in predetermined sampling timing;

a display control unit that performs display control for the pixel, using a value obtained through the sampling performed by the image signal sampling unit;

a display adjustment signal sampling unit that performs sampling for the display adjustment signal in predetermined sampling timing;

an optimum display timing detecting unit that detects optimum timing of displaying the pixel by changing the sampling timing in the display adjustment signal sampling unit, based

on a value obtained through the sampling performed by the display adjustment signal sampling unit, until the optimum timing of displaying the pixel is determined; and

a timing adjusting unit that adjusts the sampling timing in the image signal sampling unit to the optimum display timing, when the optimum display timing detecting unit detects the optimum display timing.

15. A recording medium on which the display control program as claimed in claim 14 is recorded in a computer-readable fashion.